

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph on page 12, beginning on line 8 (published as paragraph 45 in U.S. Patent Publication No. 2008/0275177), as follows:

The MCNF/decalin suspension and UHMWPE/decalin solution may then be combined to form a mixture. In some embodiments, the mixture may be heated to a temperature ranging from about 60 °C. to about 170 °C., typically from about 100 °C. to about 150 °C., more typically from about 130 °C. to about 140 °C. for a period of time ranging from about 30 minutes to about 300 minutes, typically from about 80 minutes to about 100 minutes under vigorous stirring to form a ~~homogeneous~~ homogeneous suspension. The mixture may then be allowed to cool to room temperature, at which point the decalin may be extracted from the suspension.

Please amend the paragraph on page 17, beginning on line 10 (published as paragraph 61 in U.S. Patent Publication No. 2008/0275177), as follows:

Nanocomposite preparation. In order to obtain a ~~homogeneous~~ homogeneous iPP/modified carbon nanofiber nanocomposite, a two-step procedure was used to blend iPP with the modified carbon nanofibers obtained from Example 4. The first step was solution blending, in which 5%, 20% and 50% (weight) modified carbon nanofibers were blended with iPP in xylene at 130 °C. and then precipitated in cold methanol. The dried precipitants were then melt-blended to form the composite by a DACA twin-screw micro-compounder at 190 °C. for 3 minutes in the presence of the antioxidant IRGANOX 3114.

Please amend the paragraph on page 21, beginning on line 10 (published as paragraph 73 in U.S. Patent Publication No. 2008/0275177), as follows:

The MCNFs produced in Example 8 (or oxidized-CNF from Example 7) were first added to decalin to form a uniform suspension under ultrasonic vibration at room temperature. At the same time, a polyolefin solution was prepared by combining decalin with a UHMWPE (1900 H) provided by Basell, USA, which had a weight-average molecular weight (M_w) of 6×10^6 g/mol and a polydispersity of about 9, to obtain a 1 wt % UHMWPE/decalin solution. The MCNF suspension was subsequently added to the 1 wt % UHMWPE/decalin solution and the resulting MCNF/UHMWPE/decalin mixture was then heated to 130-140 °C. for 90 minutes under vigorous stirring and formed a ~~homogeneous~~ homogeneous suspension. Upon being cooled to room temperature, decalin was extracted from the suspension. The sample was then melt mixed with 0.5 wt % (based on the amount of UHMWPE) of an antioxidant, 3-(3,5-di-tert-butyl-4-hydroxy)phenyl propanate, using a twin-screw blender (DACA Instruments) at 170 °C. for 5 minutes to prevent thermal degradation. The recovered sample was dried in a 60 °C. oven to constant weight.

Please amend the paragraph on page 22, beginning on line 5 (published as paragraph 75 in U.S. Patent Publication No. 2008/0275177), as follows:

Samples of the MCNF/UHMWPE, oxidized-CNF/UHMWPE and untreated UHMWPE were then melt-pressed into flat films (with a thickness of about 0.2 mm) ~~following~~ under the following press conditions: The temperature was 180 °C., the pressure was 2.1 MPa, and the hold time was 5 minutes, followed by quenching in ice water.

Please amend the paragraph on page 25, beginning on line 4 (published as paragraph 85 in U.S. Patent Publication No. 2008/0275177), as follows:

The stress-strain curves of neat UHMWPE, oxidized-CNF/UHMWPE and MCNF/UHMWPE (with 0.2 wt% and 5 wt% MCNF) films are shown in Figure 5. While the initial moduli of these samples were about the same, both MCNF/UHMWPE nanocomposite films (i.e., 0.2 wt% and 5 wt% MCNF) exhibited significant increases in the elongation-to-break ratio (ca. 10 times more than that of neat UHMWPE). The 0.2 wt% oxidized-CNF film also showed an increase in the elongation-to-break ratio (ca. 2 times more than that of neat UHMWPE), but substantially less than that of the MCNF/UHMWPE nanocomposites. The performance of the 0.2 wt% MCNF sample was unexpected, as it showed the highest values of elongation-to-break ratio and of ~~ultime-~~ ultimate tensile strength.

Please amend Table 2 on page 26, as follows:

Table 2.
The values of 2 θ and d-spacing of crystal diffraction peaks from 2D WAXD

Peaks	1	2	3	4	5	6
2 θ ($^{\circ}$)	17.14	18.96	20.38	21.22	22.40	23.05
d (\AA)	4.591	4.146	3.862	3.720	3.535	3.414
(hkl) mono	110		200		$\bar{2}01$	
	<u>010</u>				<u>$\bar{2}10$</u>	
(hkl) orth		110		200		
(hkl) CNF						002